

## Chapter E 119

## LIGHTNING ARRESTERS

E 119.01	Location	E 119.04	Grounding frames and cases of lightning arresters
E 119.02	Provisions for disconnecting	E 119.05	Guarding live and arcing parts
E 119.03	Connecting wires		

**E 119.01 Location.** (1) **WHERE RECOMMENDED.** Suitable precautions should be taken to protect station equipment against excessive lightning which might enter from associated overhead lines.

(a) **Exception:** Precautions need not be taken in locations where thunderstorms are infrequent at all seasons of the year.

(2) **INDOORS.** Lightning arresters with auxiliaries when installed inside of buildings shall be located well away from all other equipment, passageways, and combustible parts of buildings. When of a type containing oil they should be installed in accordance with section E 111.05. ✓

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 119.02 Provisions for disconnecting.** (1) **AIR-BREAK DISCONNECTORS.** Lightning arresters on circuits of more than 7,500 volts shall be so arranged, isolated and equipped that they may be readily disconnected from conductors to which they are connected by means of disconnects or clamping devices operable from a safe working distance. These disconnecting devices should be installed at a sufficient distance from all parts of the arrester equipment to make it safe to perform maintenance and inspection work on any part of the arrester. R

(2) **WORKING SPACE.** Such disconnectors, unless remotely controlled and operated, shall have the adjacent working spaces required by section E 112.06 for disconnectors generally.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 119.03 Connecting wires.** Grounding wires shall be run as directly as possible and be of low impedance and ample current capacity. (See chapter E 103). Kinks, coils, and sharp bends in the wires between the arresters and the outdoor lines shall be avoided as far as possible.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 119.04 Grounding frames and cases of lightning arresters.** All non-current-carrying metal parts of arresters shall be grounded, unless effectively isolated by elevation or guarded as required for live parts of the voltage of the circuit to which the arrester is connected, and suitably identified as of that voltage, in accordance with section E 112.04. ✓

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 119.05 Guarding live and arcing parts.** (1) **PROTECTION FROM CONTACT OR ARCING.** All current-carrying parts of arresters on circuits

of more than 750 volts, unless effectively isolated by elevation, shall be adequately guarded to protect persons from inadvertent contact with them, or from injury by arcing, in accordance with section E 112.05. ✓

(2) **MAKING ADJUSTMENTS.** Lightning arresters, unless provided with disconnectors which are always opened before work is done on the arresters, shall be so arranged that necessary adjustments are possible (without approach to current-carrying parts) through the use of effectively grounded mechanisms or suitable insulating appliances. Where charging or adjusting must be done with arresters alive, effectively grounded mechanisms or suitable insulating appliances shall always be provided.

(3) **INSULATION OF ATTACHMENTS.** All choke coils, gap electrodes, or other attachments, inherent to the lightning protective equipment, shall have an insulation from the ground or other conductors equal at least to the insulation demanded at other points of the circuit in the station.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.